CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is as follows:

1. A wireless communication system for polling wireless devices having a substantially fixed location, said system comprising:

at least one wireless device capable of receiving a poll request, originating from a host computer, each wireless device communicating with the host computer using a respective predetermined base transceiver station of the system;

a routing switch communicable with the host computer and the base transceiver station, comprising:

a poll download server, communicable with the host computer and receiving the poll request from the host computer pertaining to which the at least one wireless device are to be polled, said poll download server communicable with a first data repository for storing the poll request data;

a poll scheduler server, accessing the first data repository, for queuing the poll request data on a second data repository;

a radio frequency (RF) capacity server, communicable with said poll scheduler server and the second data repository, for maintaining outstanding poll requests;

a wireless device management server, communicable with said RF capacity server, for receiving a poll request from said RF capacity server;

a radio frequency server, communicable with said wireless device management server, for adding radio frequency information to the poll request; and

a protocol server, communicable with at least said radio frequency server, for adding a protocol header to the poll compatible with the wireless device to which the poll is transmitted.

2. The system according to claim 1, further comprising a fixed customer data repository communicable with said poll download server and said RF capacity server comprising data pertaining to a customer host identifier and the amount of time after a poll acknowledgement is received to consider a message from a wireless device as a poll response.

3. The system according to claim 2, wherein the fixed customer data repository further comprises data pertaining to at least one of the minimum amount of time that must expire

before a poll can be retried and the number of polling retries allowed per polling day.

4. The system according to claim 1, wherein said poll download server reads the first data repository to validate at least one of the at least one wireless device and the customer.

5. The system according to claim 1, further comprising a capacity information data repository, communicable with said poll download server and said RF capacity server, comprising data pertaining to the name of the RF capacity server that is controlling the rate at which polls are transmitted to a radio frequency network control processor.

6. The system according to claim 1, wherein the first data repository comprises data pertaining to a host computer identifier, a wireless device identifier, and poll data.

7. The system according to claim 6, wherein the first data repository further comprises data pertaining to at least one of poll data transmitted in the poll message, a status of the poll, and a time at which a last poll was issued.

8. The system according to claim 1, wherein said poll scheduler server reads the poll request data on a substantially real time basis.

9. The system according to claim 1, wherein the poll request data comprises data pertaining to an identifier associated with a wireless device, the predetermined base transceiver station associated with the wireless device, and a customer identifier associated with the wireless device.

10. The system according to claim 1, wherein said poll scheduler server updates the first data repository to indicate that the poll request has been stored in the second data repository.

11. The system according to claim 1, wherein said poll scheduler server receives at least one of an ACK and NAK response message from said RF capacity server respectively indicating that a wireless device has or has not responded to a poll request.

12. The system according to claim 11, wherein said poll scheduler server updates the first data repository with respect to at least one of the ACK and NAK.

13. The system according to claim 1, wherein said RF capacity server deletes poll requests from the second data repository.

14. The system according to claim 1, further comprising a response server, communicable with said radio frequency server, for receiving from said radio frequency server an indication of whether a wireless device is responding to the poll request.

15. The system according to claim 14, wherein the indication is stored in the first data repository.

16. The system according to claim 15, further comprising a poll routing server, communicable with said RF capacity server and said protocol server, for receiving messages from the wireless devices in response to a poll request.

17. The system according to claim 16, wherein said RF capacity server receives a poll inquiry message from said poll routing server and transmits a response to said poll routing server indicating whether the message received from a wireless device has an outstanding poll request.

18. The system according to claim 1, further comprising a request server, communicable with said radio frequency server, receiving data from said wireless device in response to said

poll and verifying that said wireless device can transmit the data to said host computer.

19. A wireless communication system for transmitting a data message from a wireless device, comprising:

a wireless device that receives a poll, originating from a host computer, each wireless device communicating with the host computer using a predetermined base transceiver station of the system;

a routing switch communicable with the host computer and the base transceiver station, comprising:

a radio frequency server, communicable with the wireless device, receiving a data message from the wireless device and removing radio frequency information from the data message;

a host router that reads a profile of the wireless device indicating a host computer to which the wireless device transmits the data message, and adds system routing information to the data message;

a poll routing server that receives the data message from said host router and determines if an outstanding poll request is associated with the wireless device; and

a protocol server, communicable with at least said poll routing server, for adding a protocol header to the data

message compatible with the host computer to which the data message is transmitted.

20. The system according to claim 19, further comprising a radio frequency (RF) capacity server comprising a timer, said RF capacity server transmiting an indication to said poll routing server as to whether a poll request is outstanding.

21. The system according to claim 20, wherein said RF capacity server further maintains outstanding poll requests and timers for the base transceiver stations.

22. The system according to claim 21, wherein upon receiving the message, the host transmits an acknowledgement to said poll routing server.

23. The system according to claim 22, wherein said poll scheduler updates a poll information database to indicate that the host has received the message.

24. The system according to claim 23, further comprising a poll scheduler that receives the acknowledgement from said poll routing server and updates the poll information database to indicate that the host has received the message.

25. The system according to claim 21, wherein upon the host not receiving the message, the host transmits a negative acknowledgement to said poll routing server.

26. The system according to claim 25, wherein once a poll request has exhausted the maximum number of poll attempts, said poll routing server transmits a message to the host computer indicating that the poll has not been completed.

27. A wireless communication system for transmitting a data message from a wireless device associated with a first routing switch to a host computer associated with a second routing switch, comprising:

a wireless device that receives a poll, originating from a host computer, each wireless device communicating with the host computer using a predetermined base transceiver station of the system;

a first routing switch communicable with the wireless device, comprising:

a radio frequency server, communicable with the wireless device, receiving in response to a poll of the wireless device, a data message from the wireless device and removing radio frequency information from the data message;

a request server that receives the data message from said radio frequency server and reads a first data repository associating an identifier of the wireless device with a host computer;

a first host router that reads network configuration information from a second data repository containing system routing information pertaining to a second routing switch; and

a radio frequency (RF) capacity server that maintains outstanding poll requests;

a second routing switch communicable with said first routing switch and the host computer, comprising:

a second host router that receives the message from said first host router;

a poll routing server that receives the message from said second host router and receives an indication from said RF capacity server whether an outstanding poll request is associated with the wireless device; and

a protocol server, communicable with at least said poll routing server, for adding a protocol header to the data message compatible with the host computer to which the data message is transmitted.

28. The system according to claim 27, wherein upon receiving the message, the host computer transmits an acknowledgement to said protocol server.

29. The system according to claim 28, wherein said protocol server further transmits the acknowledgement to said poll routing server.

30. The system according to claim 29, wherein said poll routing server reads information from a first data repository to determine a correct poll scheduler to transmit the acknowledgement.

31. The system according to claim 30, wherein said poll scheduler updates a second data repository to indicate that the host has received the message.

32. A method for polling a wireless device having a substantially fixed location, comprising the steps of:

associating a wireless device with a base transceiver station;

setting a time at which to poll the wireless device;

setting a time period subsequent to a poll for which a response from the wireless device is considered a response to the poll; and

receiving an indication from the wireless device whether a data message is to be transmitted.

33. The method according to claim 32, further comprising the step of the wireless device transmitting a data message in response to the poll.

34. The method according to claim 32, further comprising the step of the wireless device transmitting an indication that it does not have data to transmit.

35. A method for a communication system polling a wireless device having a substantially fixed location, comprising the steps of:

establishing a substantially fixed location of a wireless device with respect to the communication system;

polling the wireless device to determine if the wireless device has data to transmit; and

determining whether a transmission from the wireless device subsequent to said polling step is responsive to said polling step.

36. The method of claim 36, wherein the wireless device is responsive when the wireless device transmits to the system

within a predetermined threshold time subsequent to said polling step.

37. A system for polling a wireless device having a substantially fixed location, comprising:

means for associating a wireless device with a base transceiver station;

means for setting a time at which to poll the wireless device;

means for setting a time period subsequent to a poll for which a response from the wireless device is considered a response to the poll; and

means for receiving an indication from the wireless device whether a data message is to be transmitted.

38. A system for polling a wireless device having a substantially fixed location, comprising:

means for polling the wireless device to determine if the wireless device has data to transmit; and

means for determining whether a transmission from the wireless device subsequent to polling is responsive to said polling.

39. A wireless communication system for polling wireless devices, said system comprising:

at least one originating computer originating a poll request via a base transceiver station of the wireless communication system;

at least one wireless device capable of receiving the poll request originating from the originating computer, each wireless device communicating with the originating computer via the base transceiver station of the wireless communication system;

a poll server communicable with the originating computer and the base transceiver station, and receiving the poll request from the originating computer pertaining to which the at least one wireless device is to be polled, said poll server communicable with at least one data repository storing the poll request data, and queuing the poll request data, said poll server maintaining outstanding poll requests, receiving a poll request from said RF capacity server, including radio frequency information and protocol header to the poll request compatible with the wireless device to which the poll request is transmitted.